

CLAIMS

What is claimed is:

1. A system for reducing microwelding of a piston ring to a piston, comprising:

a piston ring having a surface coated with a composition of a polyaryletherketone polymer.

2. The system of claim 1, wherein said piston ring includes a cylinder wall engaging surface and at least one piston groove engagement surface wherein only said piston groove engagement surface is coated with said composition.

3. The system of claim 2, wherein said piston ring includes an upper radially extending surface and a lower radially extending surface, wherein said piston groove engaging surface of said piston ring comprises said lower surface.

4. The system of claim 1, wherein said ring is comprised of cast iron.

5. The system of claim 1, wherein said ring is comprised of steel.

6. A system for reducing microwelding of a piston ring to a piston, comprising:

a piston adapted to reciprocate within a combustion chamber of an engine, wherein said piston includes walls extending radially inwardly from an outer radial surface of said piston, said walls defining a circumferential groove; and
5 a piston ring disposed within said circumferential groove, said ring including a cylinder wall engaging surface and at least one piston groove engaging surface, wherein at least one of said piston groove engaging surface of said ring and said circumferential piston groove is coated with a composition of a polyaryletherketone
10 polymer.

7. The system of claim 6, wherein said piston is comprised of aluminum.

8. The system of claim 7, wherein said ring is comprised of one of cast iron and steel.

9. The system of claim 6, wherein said ring includes an upper radially extending surface and a lower radially extending surface, wherein said piston groove engaging surface comprises said lower radial surface.

10. A method for reducing microwelding of a ring to a piston, comprising the steps of:

depositing on a surface of a piston ring a composition comprising a polyaryletherketone polymer, and

5 curing said composition by exposing said piston ring to an elevated temperature for a predetermined period of time.

11. The method of claim 7, wherein said depositing step further includes depositing said composition only on a bottom portion of said piston ring.